the journal of steroid biochemistry

editors-in-chief

J. R. PASQUALINI and R. SCHOLLER

Volume Contents,
Subject and Author Index (January–June 1988)

Volume 29
1988

Pergamon Press

Oxford New York Beijing Frankfurt São Paulo Sydney Tokyo Toronto

EDITORS-IN-CHIEF

J. R. PASQUALINI and R. SCHOLLER,
Foundation for Hormone Research,
26 Boulevard Brune, 75014-Paris, France

ASSOCIATE EDITORS

H. ADLERCREUTZ, Helsinki, Finland
M. BEATO, Marburg/Lahn, F.R.G.
J. CRABBÉ, Brussels, Belgium
E. GURPIDE, New York, U.S.A.
J-Å. GUSTAFSSON, Huddinge, Sweden
E. V. JENSEN, Zurich, Switzerland
A. E. KELLIE, London, England
M. E. LIPPMAN, Bethesda, MD, U.S.A.
L. MARTINI, Milan, Italy
A. MUNCK, Hanover, NH, U.S.A.
B. W. O'MALLEY, Houston, TX, U.S.A.
D. O. TOFT, Rochester, MN, U.S.A.

CORRESPONDING EDITORS

A. AAKVAAG, Bergen, Norway
S. ANANCHENKO, Moscow, U.S.S.R.
F. AURICCHIO, Naples, Italy
P. L. BALLARD, San Francisco, U.S.A.
P. A. BELL, East Hanover, U.S.A.
E. W. BERGINK, Oss, The Netherlands
J. BLAQUIER, Buenos Aires, Argentina
R. BOUILLON, Leuven, Belgium
S. BOURGEOIS, San Diego, U.S.A.
A. BRODIE, Baltimore, U.S.A.
K. J. CATT, Bethesda, U.S.A.
L. CEDARD, Paris, France
J. A. CIDLOWSKI, Chapel Hill, U.S.A.
J. H. CLARK, Houston, U.S.A.
G. DAXENBICHLER, Innsbruck, Austria
L. DEHENNIN, Fresnes, France
E. R. DESOMBRE, Chicago, U.S.A.
M. L. DUFAU, Bethesda, U.S.A.
H. A. ERIKSSON, Stockholm, Sweden
J. FISHMAN, New York, U.S.A.
K. FOTHERBY, London, England
J. W. FUNDER, Melbourne, Australia
G. GREENE, Chicago, U.S.A.
K. GRIFFITHS, Cardiff, Wales
B. GRONER, Bern, Switzerland
V. HANSSON, Oslo, Norway
K. B. HORWITZ, Denver, U.S.A.
I. HUHTANIEMI, Turku, Finland
D. R. IDLER, Newfoundland, Canada
V. H. T. JAMES, London, England
J. KATO, Yamanashi-ken, Japan
B. S. KATZENELLENBOGEN, Urbana, U.S.A.
A. M. KAYE, Rehovot, Israel
R. J. B. KING, London, England
F. LABRIE, Quebec, Canada
C. P. LANTOS, Buenos Aires, Argentina
S. LIAO, Chicago, U.S.A.
P. C. MACDONALD, Dallas, U.S.A.
B. S. MCEWEN, New York, U.S.A.
W. L. MCGUIRE, San Antonio, U.S.A.
E. MENINI, Rome, Italy
E. MILGROM, Le Kremlin-Bicêtre, France
W. R. MILLER, Edinburgh, Scotland
T. MULDOON, Augusta, U.S.A.
J. MÜLLER, Zurich, Switzerland
B. E. P. MURPHY, Montreal, Canada
M. NEVES-E-CASTRO, Lisbon, Portugal
M. I. NEW, New York, U.S.A.
A. W. NORMAN, Riverside, U.S.A.
H. OKADA, Kyoto, Japan
M. J. PARKER, London, England
G. PÉREZ-PALACIOS, Mexico City, Mexico
W. B. PRATT, Ann Arbor, U.S.A.
J.-P. RAYNAUD, Paris, France
G. ROUSSEAU, Brussels, Belgium
W. T. SCHRADER, Houston, U.S.A.
K. SCHUBERT, Jena, G.D.R.
M. SERIO, Florence, Italy
J. SJÖVALL, Stockholm, Sweden
A. SPÄT, Budapest, Hungary
L. STÁRKA, Prague, Czechoslovakia
C. SUMIDA, Paris, France
J. R. TATA, London, England
W. TAYLOR, Tynemouth, England
P. TUOHIMAA, Tampere, Finland
S. ULICK, New York, U.S.A.
G. VERHOEVEN, Leuven, Belgium
A. VERMEULEN, Ghent, Belgium
R. VIHKO, Oulu, Finland
C. A. VILLEE, Boston, U.S.A.
K. D. VOIGT, Hamburg, F.R.G.
A. E. WAKELING, Macclesfield, England
C. R. WIRA, Hanover, U.S.A.

Publishing Office
Journals Production Unit, Pergamon Press plc, Hennock Road, Marsh Barton, Exeter, Devon EX2 8NE, England
(*Tel.* Exeter (0392) 51558; *Telex* 42749)

Subscription and Advertising Offices
North America: Pergamon Press Inc., Maxwell House, Fairview Park, Elmsford, NY 10523, U.S.A.
Rest of the World: Pergamon Press plc, Headington Hill Hall, Oxford OX3 0BW, England
(*Tel.* Oxford (0865) 64881)

Subscription per annum (1988), *including postage and insurance. Annual institutional subscription rate* (1988) DM 1735.00; *2-year institutional rate* (1988/89) DM 3296.50; *personal subscription rate for those whose library subscribes at the regular rate* (1988) DM 176. *Payments to be made in advance. Prices are subject to amendment without notice.*

Microform Subscriptions and Back Issues: Back issues of all previously published volumes are available direct from Pergamon Press. Back issues of Pergamon journals in microform can be obtained from UMI, 300 North Zeeb Road, Ann Arbor, MI 48106, U.S.A.

Published 18 issues/annum

Copyright © 1988 Pergamon Press plc

It is a condition of publication that manuscripts submitted to this journal have not been published and will not be simultaneously submitted or published elsewhere. By submitting a manuscript, the authors agree that the copyright for their article is transferred to the publisher if and when the article is accepted for publication. However, assignment of copyright is not required from authors who work for organizations which do not permit such assignment. The copyright covers the exclusive rights to reproduce and distribute the article, including reprints, photographic reproductions, microform or any other reproductions of similar nature and translations. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, electrostatic, magnetic tape, mechanical, photocopying, recording or otherwise, without permission in writing from the copyright holder.

Photocopying information for users in the U.S.A.
The Item-fee Code for this publication indicates that authorization to photocopy items for internal or personal use is granted by the copyright holder for libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service provided the stated fee for copying, beyond that permitted by Section 107 or 108 of the U.S. Copyright Law, is paid. The appropriate remittance of $3.00 per copy per article is paid directly to the Copyright Clearance Center Inc., 27 Congress Street, Salem, MA 01970, U.S.A.

Permission for other use
The copyright owner's consent does not extend to copying for general distribution, for promotion, for creating new works or for resale. Specific written permission must be obtained from the publisher for such copying.

The Item-fee Code for this publication is: 0022-4731/88 $3.00 + 0.00

LIST OF CONTENTS

JANUARY

Editorial Addresses	i	
Steroid Nomenclature	v	
M. Gyling and G. Leclercq	1	Estrogen and antiestrogen interaction with estrogen receptor of MCF-7 cells—relationship between processing and estrogenicity
John K. Tseng, Boling Sun and Linda Tseng	9	The effect of progestin on rabbit endometrial aromatase activity
John F. Hackney and David A. Schwartz	15	Ketoconazole inhibition and glucocorticoid action in the human lymphoblastic leukemia cell line CEM-C7
Mordechai Shemesh, Jerome F. Strauss III, William Hansel, Laurence S. Shore and Mordechai Izhar	21	Control of bovine placental progesterone synthesis: roles of cholesterol availability and calcium-activated systems
Yuko Ohara-Nemoto, Takayuki Nemoto and Minoru Ota	27	Ribonucleic acid association with androgen receptor from rat submandibular gland
J. Van Eldere, J. Robben, Ph. Caenepeel and H. Eyssen	33	Influence of a cecal volume-reducing intestinal microflora on the excretion and entero-hepatic circulation of steroids and bile acids
Rami Saydjari, Pomila Singh, Bashiru Affini, Courtney M. Townsend Jr and James C. Thompson	41	The isolation and characterization of estrogen binding proteins in the pancreas of male and female hamsters
Sarah Ben-Or and Andreas Chrambach	47	Transformation of the glucocorticoid receptor in the cell-free cytosol of the neural retina of the chick embryo: changes in the size and charge of the receptor complex during transformation suggest a multistage process
Alireza Guerami, Michael W. Varner Cedric H. L. Shackleton, Paul C. MacDonald and M. Linette Casey	57	Origin of deoxycorticosterone and deoxycorticosterone sulfate in human pregnancy: absence of steroid 21-sulfatase deficient placenta
Hajime Nawata, Kishio Ono, Masao Ohashi, Ken-ichi Kato and Hiroshi Ibayashi	63	RU486 inhibits induction of aromatase by dexamethasone via glucocorticoid receptor in cultured human skin fibroblasts
G. Turcotte, A. Chapdelaine, K. D. Roberts and S. Chevalier	69	Androgen binding as evidenced by a whole cell assay system using cultured canine prostatic epithelial cells
Wolfgang Dietrich, Max Görlich, Dirk Helbing and Eberhard Heise	77	Activation of the estrogen receptor from *N*-nitrosomethylurea-induced rat mammary tumors
R. Hobkirk	87	Heterogeneity of guinea pig chorion and liver estrogen sulfotransferases
J. T. M. Vreeburg, K. Samaun, H. J. Verkade, P. Verhoef, M. P. Ooms and R. F. A. Weber	93	Effects of corticosterone on the negative feedback action of testosterone, 5α-dihydrotestosterone and estradiol in the adult male rat
N. Terada, H. Wakimoto and T. Oka	99	Regulation of milk protein synthesis by progesterone in cultured mouse mammary gland
H. Vierhapper, P. Nowotny and W. Waldhäusl	105	Estimation by gas chromatography–mass spectrometry with selected ion monitoring of urinary excretion rates of 3α-androstanediol during/after i.v. administration of ^{13}C-labelled testosterone in man
Borpit Klangkalya and Albert Chan	111	Structure–activity relationships of steroid hormones on muscarinic receptor binding

Pierre Silberzahn, Jean-Luc Gaillard, Danielle Quincey, Thierry Dintinger and Ihsan Al-Timimi 119 Aromatization of testosterone and 19-nortestosterone by a single enzyme from equine testicular microsomes. Differences from human placental aromatase

Takayuki Nemoto, Yuko Ohara-Nemoto and Minoru Ota 127 Interaction of glucocorticoid receptor from rat liver with protamine and arginine

Abdul E. Mutlib, H. T. Andrew Cheung and Thomas R. Watson 135 *In vitro* metabolism of the cardiotonic steroids gomphogenin and calactin

Preliminary Note

Steve Bottomley, Chris Lovell-Smith and Peter Garcia-Webb 145 HPLC separation of corticosterone metabolites and its use in following corticosterone metabolism and transport in the isolated rat hepatocyte

Short Communication

Mohammad Ayub and Thomas A. Scott 149 Inhibition of human placental aromatase by mefloquine

Forthcoming Papers I

FEBRUARY

William S. Branham, Mary L. Leamons and Daniel M. Sheehan 153 Estrogen- and antiestrogen-induced ornithine decarboxylase activity and uterine growth in the rat

Hartmut Klein, Wilfried Bartsch, Anette Niemand, Hans-Jörg Stürenburg and Klaus-Dieter Voigt 161 Inhibition of human placental aromatase in a perfusion model. Comparison with kinetic, cell-free experiments

Kang Liu, Jeffrey Ellis and Carol A. Barnett 171 Generation of corticosteroid binder IB from binder II by a sulfhydryl dependent renal cytosolic factor

Wojciech J. Koper, Stephen J. Yeaman and Rupert C. Honnor 179 Adenosine effects on hormone-stimulated steroidogenesis in isolated bovine adrenal *zona fasciculata* cells

Robert M. Gardner, Timothy A. Reinhardt and Ronald L. Horst 185 The biological assessment of vitamin D_3 metabolites produced by rumen bacteria

John G. Lewis and Peter A. Elder 191 Affinity chromatography using competitive elution separates polyclonal glucocorticoid antisera into fractions of varying cross-reactivity

Salman M. Hyder, Nobuko Sato, William Hogancamp and James L. Wittliff 197 High-performance hydrophobic interaction chromatography of estrogen receptors and magnesium dependent protein kinase(s): detection of two molecular forms of estrogen receptors in the presence and absence of sodium molybdate

G. J. Marcus and R. Durnford 207 Estradiol assay by microtitre plate enzyme immunoassay

E. A. Kato, B. R-S. Hsu and R. W. Kuhn 213 Comparative structural analyses of corticosteroid binding globulin

Mitsuteru Numazawa and Satoshi Satoh 221 Kinetic studies of inhibition of estradiol 2-and 16α-hydroxylases in rat liver microsomes with various cytochrome P-450 inhibitors

Hiroshi Inano, Shinobu Kurihara and Bun-ichi Tamaoki 227 Inactivation of rat testicular NADPH-cytochrome P-450 reductase by 2,4,6-trinitrobenzenesulfonate

Michael Murray, Elizabeth Cantrill and Geoffrey C. Farrell 233 Hepatic microsomal metabolism of androst-4-ene-3,17-dione: relative importance of ring hydroxylation and aromatization in control and induced rat liver

Michel Pons and Didier Gagne 239 A model of antiglucocorticoid action for designing a potent glucocorticoid antagonist

J. Kolanowski, N. Ortega and J. Crabbé 249 Corticotropin-induced changes in enzymatic activities of the post-pregnenolone steroidogenic pathway in rabbit adrenocortical cells

James L. O'Conner and Virendra B. Mahesh 257 A possible role for progesterone in the preovulatory gonadotropin surge through modulation of LHRH degrading activity

Arlette Brehier and Monique Thomasset 265 Human colon cell line HT-29: characterisation of 1,25-dihydroxyvitamin D_3 receptor and induction of differentiation by the hormone

Short Communication

Dean K. Sorenson, Thomas M. Kelly, Darrell K. Murray and Don H. Nelson 271 Corticosteroids stimulate an increase in phospholipase A_2 inhibitor in human serum

Book Reviews 275

Forthcoming Papers i

MARCH

Toshikazu Kigoshi, Kenzo Uchida and Sinpei Morimoto 277 Existence of endogenous substrate proteins for Ca^{2+}/calmodulin-dependent and Ca^{2+}/phospholipid-dependent protein kinases in rat adrenal glomerulosa cells

Chon-Hwa Tsai-Morris, Gail F. Knox and Maria L. Dufau 285 Gonadotropin induction of a regulatory mechanism of steroidogenesis in fetal Leydig cell cultures

Bo Nilsson, Kjell Carlström and Bo von Schoultz 293 Effects of estrogen and growth hormone on steroid sulfatase activity and estrogen binding in rat liver

W. Schneider, D. O. Toft, W. P. Sullivan and G. Shyamala 297 Interaction of murine progesterone receptors with specific monoclonal antibodies to the avian progesterone receptor

John L. McCarthy and Michael R. Waterman 307 Co-induction of 17α-hydroxylase and C-17,20-lyase activities in primary cultures of bovine adrenocortical cells in response to ACTH treatment

T. Seene, M. Umnova, K. Alev and A. Pehme 313 Effect of glucocorticoids on contractile apparatus of rat skeletal muscle

V. Moutsatsou and R. E. Oakey 319 Oestriol binding to plasma proteins

W. J. Watkins, C. E. P. Goldring and D. B. Gower 325 Properties of 4-ene-5α-reductase and studies on its solubilization from porcine testicular microsomes

S. Lewicka, P. Vecsei, K. Bige, T. Fisher, J. Winter, S. Abdelhamid, U. Heinrich and V. D. Bokkenheuser 333 Urinary excretion of aldosterone metabolite Kelly-M1 in patients with adrenal dysfunction

Lena Nyberg and Ilona Jones 341 A simple method for the purification of murine corticosteroid binding globulin: characterization of a monomer

E. V. YoungLai, M. Wilkinson and N. Thompson 347 Effects of ovariectomy and estradiol replacement on naloxone induced LH secretion in the female rabbit

Vincent C. O. Njar, Thangavel Arunachalam, Gerhard Spiteller and Eliahu Caspi 353 Synthesis of C-2, 3, 17 and 19-oxygenated androgens

John Orlowski and Albert F. Clark 361 Estrogen metabolism by primary cultures of rat ventral prostate epithelial and stromal cells

Short Communications

A. D. Mooradian, D. M. Pamplona, S. P. Viosca and S. G. Korenman 369 Effect of free fatty acids on the bioavailability of plasma testosterone and dihydrotestosterone

Ana Plemenitaš, Marija Žakelj-Mavrič and Radovan Komel 371 Hydroxysteroid dehydrogenase of *Cochliobolus lunatus*

Book Reviews 373

Announcements i

APRIL

E. R. Clark, D. Mackay and S. P. Robinson 375 Application of a mathematical model for two component receptor binding to two high affinity oestrogen binding sites in nuclei from DMBA rat mammary tumours

G. Vanham, H. Van Baelen, B. K. Tan and R. Bouillon 381 The effect of vitamin D analogs and of vitamin D-binding protein on lymphocyte proliferation

Zdzislaw Wawrzak, William L. Duax, Phyllis D. Strong and Judith Weisz 387 Steroid structure and function. Molecular conformation of 4-hydroxy-estradiol and its relation to other catechol estrogens

E. Perel, D. Daniilescu, L. Kharlip, M. Blackstein and D. W. Killinger 393 Steroid modulation of aromatase activity in human cultured breast carcinoma cells

Håkan A. Eriksson and Bo Freyschuss 401 Effects of thyroid hormones on the receptor level in estrogen target organs

Mitsumasa Kubo and Charles A. Strott 407 Calcium-dependent protein kinase activity and protein phosphorylation in zones of the adrenal cortex

Damian Doyle, Zygmunt Krozowski, Francis J. Morgan and John W. Funder 415 Analysis of renal and hippocampal Type I and Type II receptors by fast protein liquid chromatography

Åke Pousette, Roland Fernstad, Agneta Häggmark, Holger Sköldefors, Nils-Olof Theve and Kjell Carlström 423 The estrogen binding protein in human pancreas: concentrations in subcellular fractions of normal pancreatic tissue in duodenal juice during pancreatic stimulation and in peripheral serum in normal and pathological conditions

John A. Resko, Peter B. Connolly and Charles E. Roselli 429 Testosterone 5α-reductase activity in neural tissue of fetal rhesus macaques

Névéna Christeff, Claudine Benassayag, Claire Carli-Vielle, Alain Carli and Emmanuel A. Nunez 435 Elevated oestrogen and reduced testosterone levels in the serum of male septic shock patients

Giuseppina Mazzocchi, Ludwik K. Malendowicz, Giuseppe Gottardo and Gastone G. Nussdorfer 441 Evidence that prolonged α-MSH infusion enhances the steroidogenic capacity of rat adrenal zona glomerulosa *in vivo*

Review
András Spät 443 Stimulus-secretion coupling in angiotensin-stimulated adrenal glomerulosa cells

Book Reviews 455

MAY

Rolf Jaggi, Robert Friis and Bernd Groner 457 Oncogenes modulate cellular gene expression and repress glucocorticoid regulated gene transcription

Antony F. P. M. De Goeij, Hubert M. E. Scheres, Mat J. M. Rousch, Gerry G. Hondius and Fred T. Bosman 465 Progesterone receptor quantification with radiolabeled promegestone (R 5020) in frozen sections of endometrium and breast cancer tissue

Eric Badia, Anne Schmidt and Jean-Claude Nicolas 475 A 17-kDa protein induced in rat myometrium by hormonal treatment

Hélène Hietter, Alain Gouyette, Alain Van Dorsselaer and Bang Luu 481 Metabolism of cytotoxic hydroxysterols in cultured cells. Chemical characterization of metabolites

Shlomo Sasson and Angelo C. Notides 491 The effects of dimethylformamide on the interaction of the estrogen receptor with estradiol

J. O. Macaulay, G. L. Warne and Z. S. Krozowski 497 Human placenta contains a high affinity R1881 binding site that is not the androgen receptor

A. Nixon, A. I. Mallet and D. B. Gower 505 Simultaneous quantification of five odorous steroids (16-androstenes) in the axillary hair of men

Chiew Yan Lee, J. D. Few and V. H. T. James 511 The determination of 18-hydroxycorticosterone in saliva and plasma: comparison with aldosterone and glucocorticoids

C. Delarue, H. Lefebvre, S. Idres, F. Leboulenger, G. Homo-Delarche, I. Lihrmann, M. Feuilloley and H. Vaudry 519 Serotonin stimulates corticosteroid secretion by frog adrenocortical tissue *in vitro*

Kevin L. Medlock, Daniel M. Sheehan, C. J. Nelson and William S. Branham 527 Effects of postnatal DES treatment on uterine growth, development and estrogen receptor levels

Charles H. Blomquist, Claire E. Kotts and Erick Y. Hakanson 533 Activation of human placental 5-pregnene-3,20-dione isomerase activity by pyridine nucleotides

Larry E. Vickery and Jangbir Singh 539 22-thio-23,24-bisnor-5-cholen-3β-ol: an active site-directed inhibitor of cytochrome $P450_{scc}$

Donald C. Johnson 545 Loss of ovarian 17α-hydroxylase/C17,20-lyase activity induced by human chorionic gonadotropin is correlated with *in vivo* substrate availability

Kang-Hyun Lee and Peter Ofner 553 Reductive metabolism of 5α-dihydrotestosterone by rat ventral and dorsolateral prostate: kinetic parameters of the enzymes

Announcement i

JUNE

Jonathan F. Elliston and Benita S. Katzenellenbogen 559 Comparative analysis of estrogen receptors covalently labeled with an estrogen and an antiestrogen in several estrogen target cells as studied by limited proteolysis

John A. Foekens, Henk Portengen, Jolie van Driel, Wim L. J. van Putten, Willem G. Haije and Jan G. M. Klijn 571 Comparison of enzyme immunoassay and dextran-coated charcoal techniques for progesterone receptor determination in human breast cancer cytosols

Pierre A. Danhaive and Guy G. Rousseau 575 Evidence for sex-dependent anabolic response to androgenic steroids mediated by muscle glucocorticoid receptors in the rat

Eugene R. DeSombre, Ronnie C. Mease, Jigi Sanghavi, Tej Singh, Robert H. Seevers and Alun Hughes 583 Estrogen receptor binding affinity and uterotrophic activity of triphenylhaloethylenes

Louisa Laue, Shinichi Kawai, David D. Brandon, David Brightwell, Kevin Barnes, Richard A. Knazek, D. Lynn Loriaux and George P. Chrousos 591 Receptor-mediated effects of glucocorticoids on inflammation: enhancement of the inflammatory response with a glucocorticoid antagonist

W. Schneider, Y. Gauthier and G. Shyamala 599 Effects of progesterone, promegestone and RU 486 on glucocorticoid receptor levels in primary cultures of mouse mammary epithelial cells

Piera Rebuffat, Giuseppina Mazzocchi, Giuseppe Gottardo, Virgilio Meneghelli and Gastone G. Nussdorfer 605 Further investigations on the atrial natriuretic factor (ANF)-induced inhibition of the growth and steroidogenic capacity of rat adrenal zona glomerulosa *in vivo*

Susanne Gyorki, Garry L. Warne and John W. Funder 611 Photoaffinity labelling with [^{3}H]R1881 of androgen receptors from human cultured genital fibroblasts of normal individuals and patients with androgen receptor abnormalities

Rachel I. Huot and Sydney A. Shain 617 Differential metabolism of dehydroepiandrosterone sulfate and estrogen conjugates by normal or malignant AXC/SSh rat prostate cells and effects of these steroid conjugates on cancer cell proliferation *in vitro*

M. Thierry-Palmer, T. K. Gray and J. L. Napoli 623 Ring hydroxylation of 25-hydroxycholecalciferol by rat renal microsomes

Bruce K. Beyer and Mont R. Juchau	629	Contrasting effects of estradiol-17β and 17α-ethinyl estradiol-17β on cultured whole embryos
K. Nahoul, F. Daffos, F. Forestier, M. Chartier, and R. Scholler	635	Plasma corticosteroid patterns in the fetus
Tracey D. Drummond, J. Ian Mason and John L. McCarthy	641	Gerbil adrenal 11β- and 19-hydroxylating activities respond similarly to inhibitory or stimulatory agents: two activities of a single enzyme
S. C. Wilson, R. E. Oakey and J. S. Scott	649	Steroid metabolism in testes of patients with incomplete masculinization due to androgen insensitivity or 17β-hydroxysteroid dehydrogenase deficiency and normally differentiated males
Xiaodong Qian and Yusuf J. Abul-Hajj	657	Synthesis and biological activity of 17β-substituted estradiol
Kazutoshi Yanagibashi, Cedric H. L. Shackleton and Peter F. Hall	665	Conversion of 11-deoxycorticosterone and corticosterone to aldosterone by cytochrome P-450 11β-/18-hydroxylase from porcine adrenal
Tomas Cronholm and Ulf Rudqvist	677	Hydrogen exchange during oxidoreduction and epimerization at C-3 of C_{19} steroid sulphates in the rat
Masaaki Konagaya, Yoko Konagaya, Jeanette A. Friedman and Stephen R. Max	685	Nuclear glucocorticoid receptor binding in L6 skeletal muscle cells in culture
B. Marchetti and F. Labrie	691	Characteristics of flutamide action on prostatic and testicular functions in the rat
Miho Ohta, Shigeru Fujii, Taira Ohnishi and Mitsuhiro Okamoto	699	Production of 19-oic-11-deoxycorticosterone from 19-oxo-11-deoxycorticosterone by cytochrome P-450$_{11\beta}$ and nonenzymatic production of 19-nor-11-deoxycorticosterone from 19-oic-11-deoxycorticosterone
A. M. Pino and L. E. Valladares	709	Evidence for a Leydig cell progesterone receptor in the rat
Irene Mowszowicz, Abiba Doukani and Martine Giacomini	715	Binding of the androgen receptor to the nuclear matrix of human foreskin
Terry T. Hung and William J. LeMaire	721	The effects of corticotropin, opioid peptides and crude pituitary extract on the production of dehydroepiandrosterone and corticosterone by mature rat adrenal cells in tissue culture
Short Communications		
E. Anguilar and F. López	727	GH response to GRF (1–29) NH_2 in female rats treated neonatally with extradiol benzoate or testosterone propionate
Howard D. Colby, Lynn B. Lacagnin and Penelope A. Longhurst	731	Changes in adrenocortical monooxygenase activities in alloxan-diabetic rabbits
Erratum	I	